

IN THE CLAIMS

Please cancel claims 1-28.

A marked-up version of the claims, showing changes made, may be found in Appendix A, attached hereto. Below is a clean set of all pending claims, submitted under 37 C.F.R. §1.121(c)(3), incorporating any additions, cancellations, and amendments thereto. Please substitute these claims for pending claims of the same number.

22 23 24 25 26 27 28 29 30 31 32 33 34

29. (Newly Added) A method of executing a sequence of instructions comprising:
determining a predicted predicate value (PPV) for a predicate;
conditionally executing a predicated instruction depending on the PPV;
executing a COMPARE instruction to determine an actual predicate value
(APV) for the predicate;
comparing the APV to the PPV; and
flushing a pipeline if the APV and the PPV are unequal.

30. (Newly Added) The method of claim 29, further comprising executing the
predicated instruction after flushing the pipeline.

31. (Newly Added) The method of claim 29, wherein flushing the pipeline comprises
flushing only a backend portion of the pipeline.

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32. (Newly Added) The method of claim 29, further comprising updating historical information corresponding to the predicate in a predicate history table after comparing the APV to the PPV.

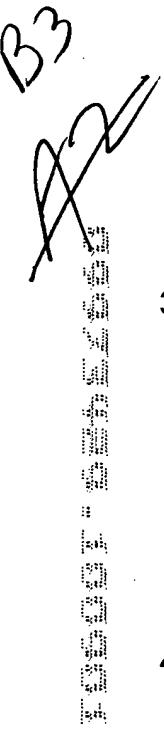
33. (Newly Added) The method of claim 29, wherein conditionally executing the predicated instruction includes executing the predicated instruction if the PPV is true.

34. (Newly Added) The method of claim 29, wherein conditionally executing the predicated instruction includes treating the predicated instruction like a no-op if the PPV is false.

35. (Newly Added) A processor comprising:
a predicate history table;
a register file; and
a predicted predicate value (PPV) calculator having a first input coupled to an output of the predicate history table and a second input coupled to an output of the register file.

36. (Newly Added) The processor of claim 35, further comprising:
a IP select circuit having an output coupled to the predicate history table;
a register select circuit having an output coupled to the register file; and
an instruction decoder having an output coupled to input of the IP select circuit and the register select circuit.

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37. (Newly Added) The processor of claim 35, further comprising a pipeline having a PPV input coupled to an output of the register file and an actual predicate value (APV) output coupled to an input of the predicate history table.
38. (Newly Added) The processor of claim 37, further comprising an XOR gate having a first input coupled to the APV output of the pipeline, a second input coupled to an output of the register file, and an output coupled to a flush input of the pipeline.
39. (Newly Added) A processor comprising:
 - a predicate history table to store historical information associated with a predicate; and
 - a predicted predicate value (PPV) calculator to calculate a PPV.
40. (Newly Added) The processor of claim 39, further comprising a speculative predicate register file to store the PPV.
41. (Newly Added) The processor of claim 40, further comprising a pipeline to receive the PPV, and to conditionally execute a predicated instruction depending on the PPV.

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42. (Newly Added) The processor of claim 39, further comprising a pipeline to receive the PPV, and to conditionally execute a predicated instruction depending on the PPV.

43. (Newly Added) The processor of claim 42, wherein the pipeline includes an actual predicate value output to provide an actual predicate value to the predicate history table.

44. (Newly Added) The processor of claim 39, wherein the calculator includes a selector to, based on a confidence level, select the PPV to be based on historical information.

45. (Newly Added) A system comprising:
memory to store a predicated instruction;
a bus to transfer the predicated instruction from the memory; and
a processor to receive the predicated instruction and to calculate a predicted predicate value (PPV) for the predicate.

46. (Newly Added) The system of claim 45, wherein the processor comprises a predicate history table to store historical information associated with the predicate.

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47. (Newly Added) The system of claim 46, wherein the processor further comprises a pipeline to receive the PPV, and to conditionally execute the predicated instruction depending on the PPV.

48. (Newly Added) The system of claim 45, wherein the processor further comprises a pipeline to receive the PPV, and to conditionally execute the predicated instruction depending on the PPV.

49. (Newly Added) The system of claim 45, wherein the memory is main memory and the bus is a system bus.

50. (Newly Added) The system of claim 45, wherein the memory is external memory.